Therefore, an object of the present invention is to provide a data transmission system and method which achieves an efficient use of a plurality of communications circuits in terms of transmission bandwidth and which can allow users to download the data from a server less expensively.

Claims 35, 52-53, 59-60 and 68 are the only independent claims in the present application. Claims 35, 52, 60 and 68 were each amended in the January 24, 2005 Amendment After Final to recite that the plurality of communications circuits are connected in parallel between the server and the data circuit terminating device. Claims 53 and 59 were each amended in the January 24, 2005 Amendment After Final to recite that the plurality of communication circuits are connected in parallel between the server and the plurality of data terminal devices.

By reciting that the plurality of communications circuits are connected in parallel between the server and the data circuit terminating device, claims 35, 52, 60 and 68 emphasize that the plurality of data communication circuits between the server and a data circuit terminating device are connected in a parallel manner. Similarly, by reciting that the plurality of communication circuits are connected in parallel between the server and the plurality of data terminal devices, claims 53 and 59 emphasize that the plurality of data communication circuits between the server and the plurality of data terminal devices are connected in a parallel manner.

In other words, as recited in claims 35, 52-53, 59-60 and 68, each of the plurality of data communication circuits is connected between the server and a data circuit terminating device, and are parallel to each other in terms of connectivity.

Accordingly, based on a transmission time limit specified by the user and predetermined communications information, such as the size of the requested content data, transmission expenses of the communications circuits and the number of users requesting the same content data, the server in each of claims 35, 52-53, 59-60 and 68 select, from among the plurality of communications circuits in parallel between the server and the data circuit terminating device (or the plurality of data terminal devices), the most optimal communications circuit for completely transmitting the requested content data.

With the feature of selectively using one communication circuit from among a plurality of communications circuits in accordance with the time limit and predetermined

communications information, the data transmission system and method of the present invention is able to determine a communications circuit which provides the most suitable transmission of the requested data in a satisfactory and timely manner, thereby performing transmission at the lowest possible cost to the user.

In response to the amendment to claims 35, 52-53, 59-60 and 68 in the January 24, 2005 Amendment After Final, the Examiner newly applied the Jorgensen reference.

In the second paragraph in item 5 on page 3 of the Office Action, the Examiner contends that Jorgensen discloses, in Column 3, lines 30-41 and Figures 2D and 3B, that a plurality of communications circuits are connected in parallel between a server and a data circuit terminating device.

Figure 3B of Jorgensen discloses that a data network 142 (corresponding to any one of the communications circuits recited in claims 35, 52-53, 59-60 and 68) is connected with a wireless network (corresponding to another one of the communications circuits) via a wireless base station 302. Further, a subscriber CPE station 294d (corresponding to a data circuit terminating device) is connected with the wireless base station 302 over the wireless network via antennas 290d and 292d. According to the Examiner's interpretation of Jorgensen, a router 140d (corresponding to a server) is connected with wireless base station 302 over the data network 142 (see Column 41, lines 27-38).

Accordingly, the CPE station 294d and the router 140d are connected via both the wireless network and the data network 142. However, the connection between the CPE station 294d and the router 140d is clearly a serial connection, not a parallel connection. That is, the CPE station 294d is connected in series with the router 140d by means of the wireless network, the wireless base station 302 and the data network 142.

Accordingly, despite the Examiner's assertion to the contrary, the CPE station 294d and the router 140d are clearly not connected in parallel.

Therefore, Jorgensen clearly does not disclose or suggest that the plurality of communications circuits are connected in parallel between the server and the data circuit terminating device, as recited in claims 35, 52, 60 and 68. Similarly, Jorgensen clearly does not disclose or suggest that the plurality of communications circuits are connected in

parallel between the server and the data circuit terminating device, as recited in claims 53 and 59.

Miller et al. discloses a system of scheduling data transmission in which a server 14 transmits content data to a replicated server 20 through a communications network 24 (Column 4, lines 38-40). The content data that is delivered to the replicated server 20 can then be relayed to a user terminal 22_1, 22_2 and/or 22_3 through another network 26 (Column 4, lines 56-69).

Miller et al. discloses that each of the networks 24, 26 can be a computer such as a WAN, LAN, Internet, wireless network, satellite network, a combination of these types of networks, or some other communication medium (Column 4, line 66 to Column 5, line 4). To one of ordinary skill in the art, it is understood that each of the networks 24, 26 may be fixedly implemented as any one of the aforementioned types of networks, or as a serial combination of any of the aforementioned types of networks.

Miller et al. clearly shows in Figure 1 that there is only path connecting between the server 14 and the replicated server 20. Therefore, Miller clearly discloses that there is only one circuit/network path 24, although the network path 24 may be implemented as one of the aforementioned network types. Similarly, there is only one path connecting between the replicated server 20 and each of the user terminals 22_1, 22_2 22_3.

Accordingly, Miller et al. clearly does not disclose or suggest a plurality of communications circuits connected in parallel between the server 14 and the replicated server 20.

Furthermore, the data transmission system of Miller et al. is aimed at the efficient use of network bandwidth by appropriately scheduling the transmission of content data from the server 14 to the replicated server 20 with a scheduler 10, which determines the amount of bandwidth that is available for content data transmission at times surrounding the desired completion time and the duration of time that such an amount of bandwidth is available (Column 2, lines 20-23).

Accordingly, Miller et al. clearly does not disclose or suggest a system or method for selecting an optimal circuit or network for such data transmission in accordance with the attributes associated with the user, requested content data and communications circuits since there is no disclosure of circuit/network paths which are connected in

parallel between the server 14 and the replicated server 20. In other words, Miller et al. discloses that there is only one possible circuit/network path connecting between the server 14 and the replicated server 20, and therefore, according to the system of Miller et al., it is not possible to switch to or select another circuit/network path having superior suitability for the requested content data.

Therefore, Miller et al. clearly does not disclose or suggest a feature for selecting an optimal communications circuit from among a plurality of communications circuits which are connected in parallel between the server 14 and the replicated server 20 in order to provide for an optimal transmission of the requested content data.

Accordingly, similar to Jorgensen, Miller et al. clearly does not disclose or suggest that the plurality of communications circuits are connected in parallel between the server and the data circuit terminating device, as recited in claims 35, 52, 60 and 68. Similarly, Miller et al. clearly does not disclose or suggest that the plurality of communications circuits are connected in parallel between the server and the data circuit terminating device, as recited in claims 53 and 59.

Therefore, Jorgensen and Miller et al., either individually or in combination, clearly fail to disclose or suggest each and every limitation of claims 35, 52-53, 59-60 and 68.

Accordingly, no obvious combination of Jorgensen and Miller et al. would result in the inventions of claims 35, 52-53, 59-60 and 68 since Jorgensen and Miller et al., either individually or in combination, clearly fail to disclose or suggest each and every limitation of claims 35, 52-53, 59-60 and 68.

Therefore, claims 35, 52-53, 59-60 and 68 are clearly allowable over Jorgensen and Miller et al.

In item 26 on page 14 of the Office Action, claims 41-43, 45-46, 48 and 64-66 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Jorgensen in view of Miller et al. and further in view of Berstis et al. (U.S. 6,182,122). In item 36 on page 17 of the Office Action, claims 49-51 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Jorgensen et al. in view of Miller et al. and further in view of Schweitzer et al. (U.S. 6,418, 467).

As clearly demonstrated above, Jorgensen and Miller et al. clearly fail to disclose or suggest each and every limitation of claims 35, 52-53, 59-60 and 68.

Berstis et al. and Schweitzer et al. also each fail to disclose or suggest that a plurality of communications circuits are connected in parallel between a server and a data circuit terminating device, as recited in claims 35, 52, 60 and 68. Similarly, Berstis et al. and Schweitzer et al. also each fail to disclose or suggest that a plurality of communications circuits are connected in parallel between a server and a data circuit terminating device, as recited in claims 53 and 59.

Therefore, Berstis et al. and Schweitzer et al. clearly fail to cure the deficiencies of Jorgensen and Miller et al. for failing to disclose or suggest each and every limitation of claims 35, 52-53, 59-60 and 68.

Accordingly, no obvious combination of Jorgensen, Miller et al., Berstis et al. and Schweitzer et al. would result in the inventions of claims 35, 52-53, 59-60 and 68 since Jorgensen, Miller et al., Berstis et al. and Schweitzer et al., either individually or in combination, clearly fail to disclose or suggest each and every limitation of claims 35, 52-53, 59-60 and 68.

Therefore, claims 35, 52-53, 59-60 and 68 are clearly patentable over Jorgensen, Miller et al., Berstis et al. and Schweitzer et al.

Furthermore, it is submitted that the clear distinctions discussed above are such that a person having ordinary skill in the art at the time the invention was made would not have been motivated to modify Jorgensen, Miller et al., Berstis et al. and Schweitzer et al. in such as manner as to result in, or otherwise render obvious, the present invention as recited in claims 35, 52-53, 59-60 and 68.

Therefore, it is submitted that the claims 35, 52-53, 59-60 and 68, as well as claims 36-51, 54-58 and 61-67 which depend therefrom, are clearly allowable over the prior art as applied by the Examiner.

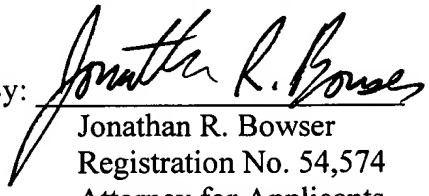
In view of the foregoing amendments and remarks, it is respectfully submitted that the present application is clearly in condition for allowance. An early notice thereof is respectfully solicited.

If, after reviewing this Request, the Examiner feels there are any issues remaining which must be resolved before the application can be passed to issue, the Examiner is

respectfully requested to contact the undersigned by telephone in order to resolve such issues.

Respectfully submitted,

Takeshi KOKADO et al.

By: 

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